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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,082	07/30/2003	Hea-Chun Lee	21C-0056	2199
23413 7590 11/05/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER HAN, JASON				
ART UNIT		PAPER NUMBER		
2875				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/632,082

Applicant(s)

LEE ET AL.

Examiner

JASON M. HAN

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-38 is/are pending in the application.
- 4a) Of the above claim(s) 14-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-13 and 29-38 is/are rejected.
- 7) ☒ Claim(s) 1, 29 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20080911
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 11, 2008 has been entered.

Response to Arguments

2. Applicant's arguments with respect to Claims 1, 3-13, and 29-36 have been considered but are moot in view of the new ground(s) of rejection.

3. At present, the prior art to Ishida et al. (U.S. Patent 7,057,678 B2), Saito et al. (U.S. Patent 6,441,874 B1), and Oyokota et al. (JP 2002-132193 A) remains commensurate to the scope of the claims as stated by the Applicant within the context of the claim language and as broadly interpreted by the Examiner [MPEP 2111], which is elucidated and expounded upon below.

Claim Objections

4. Claim 1 is objected to because of the following informalities: "the first connector being disposed between the two first through-holes" is suggested to read as "the first connector being disposed between the at least two first through-holes", so as to remain consistent in language. Appropriate correction is required.

5. Claim 29 is objected to because of the following informalities: "the connector being disposed between the two first through-holes" is suggested to read as "the connector being

disposed between the at least two through-holes", so as to remain consistent in language.

Appropriate correction is required.

6. Claim 38 is objected to because of the following informalities: "the first connector" is suggested to read as "the connector", so as to remain consistent in language. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-5, 13, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2).

9. With regards to Claim 1, Ishida discloses a lamp assembly including:

- At least two lamps [Figure 1: (27)], whereby each of the lamps being of a fluorescent bulb type [Column 1, Line 43; Column 2, Line 1], which are commonly known in the art and inherently provide a fluorescent layer formed on an inner surface of a lamp body, a discharge gas disposed in the body, first and second electrodes [Figures 1: (29)] for providing the lamp body with first and second discharge voltages, respectively;
- A first lamp holder [Figure 1: (26)] having a pipe-shape, whereby a first end portion of the lamp is inserted into the pipe-shape and fastened to the first lamp holder;

- A first board [Figure 1: (28)] having a flat plate shape and is coupled to first electrodes of the lamps to provide the first electrodes with a first discharge voltage, whereby the first board includes:
 - = A first insulated body [Figure 1: (28)] having a first inward surface [Figure 1: opposite (28a)] that makes contact with the first lamp holder and a first outward surface [Figure 1: (28a)] that is opposite to the first inward surface;
 - = A first conductive pattern formed on the first outward surface of the first insulated body [Column 2, Lines 6-14 – inherent that (28a) would have a conductive pattern to electrically connect (29) with the inverter mentioned in Column 2, Lines 15-19]; and
 - = At least two first through-holes [note Figure 1 with at least two lamps as mentioned in Column 2, Line 2] formed on the first insulated body and each of the first through-holes receiving the first electrode of each of the lamps, the first electrode extending through the first through-hole to the first outward surface of the first insulated body and being electrically connected to the first conductive pattern; and
- A first connector [Column 2, Lines 15-19; e.g., Figure 4: (15)] installed on the first board to electrically connect the first electrodes that are coupled to the first board to an inverter [e.g., Figure 4: (17)] that generates the first discharge voltage.

In addition, Ishida teaches the first connector installed at an end of the first board [note Figure 4], but does not specifically teach the first connector being disposed between the at least two first through-holes.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the first connector to be disposed between the at least two first through-holes for the desired purpose of disposing the components at a particular preference, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, rearranging the first connector between the at least two first through-holes is considered a matter of engineering preference and not the main patentable feature, whereby different dispositions of connection/installment of the first connector would be functionally equivalent.

10. With regards to Claim 37, Ishida discloses the first connector [Figure 4: (15)] having a coupling portion [end that is connected to the inverter – note Figure 4: (17)] formed at a lower portion (relative) of the first connector.

11. With regards to Claim 3, Ishida discloses a first terminal [Column 2, Line 15], coupled to receive the first discharge voltage from the inverter and provide the first discharge voltage to the first connector, whereby the first terminal is coupled to the coupling portion of the first connector [Column 2, Lines 15-19].

12. With regards to Claim 4, Ishida discloses the first connector [Figure 1: (28b)] being installed on the first conductive pattern of the first board [Column 2, Lines 6-14], and electrically connecting the first conductive pattern of the first board to the inverter through the first terminal [Column 2, Line 15].

13. With regards to Claim 5, Ishida discloses the first electrode is soldered [Figure 1: (28b)] with the first conductive pattern to be electrically connected thereto.

14. With regards to Claim 13, Ishida discloses a plurality of lamps [Column 2, Lines 1-2] and teaches there being four lamps [Figure 4].

15. With regards to Claim 35, Ishida discloses the first board [Figure 1: (28)] being disposed such that a major surface of the first board [Figure 1: (28a)] is substantially perpendicular to a longitudinal direction of each of the lamps [Figure 1: (27)].

16. With regards to Claim 36, Ishida discloses the first board [Figure 1: (28)] being intermediate the first lamp holder [Figure 1: (26)] and a terminal end of the first electrode [Figure 1: proximate (28b)].

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2) as applied to Claim 1 above, and further in view of Saito et al. (U.S. Patent 6,441,874 B1).

Ishida discloses the claimed invention as cited above, but does not specifically teach the first lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

18. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2) as applied to Claim 1 above, and further in view of Oyokota et al. (JP 2002-132193 A).

Ishida does not specifically teach a second lamp holder having a pipe-shape, a second end portion of the lamp being inserted into the pipe-shape to be fastened to the second lamp holder; and a second board coupled to the second electrode to provide the second electrode with the second discharge voltage (re: Claim 7); wherein the second board includes a second insulated body having a second inward surface that makes contact with the second lamp holder and a second outward surface that is opposite to the second inward surface; a second conductive pattern formed on the second outward surface of the second insulated body; and at least two second through-holes formed on the second insulated body, the second electrode extending through the second through-hole to the second outward surface of the second insulated body and being electrically connected to the second conductive pattern (re: Claim 8); a second connector installed on the second conductive pattern; and a second terminal, coupled to the second connector to receive the second discharge voltage from the inverter and provide the second discharge voltage to the second connector (re: Claim 9); wherein the second connector electrically connects the second conductive pattern of the second board to the inverter through the second terminal (re: Claim 10); and wherein the second electrode is soldered with the second conductive pattern to be electrically connected thereto (re: Claim 11).

Oyokota teaches a lamp assembly having at least two fluorescent lamps [Drawings 1, 4-5: (2)] with first and second electrodes that are coupled to first [Drawing 1: (9, 10, 11, 14)] and

second [Drawing 1: (8, 10, 11, 14)] boards, respectively on either sides of the lamps, which provide first and second discharge voltages [Drawing 5] to the respective electrodes.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate a second lamp holder coupled to the second electrode and a second board for providing the second electrode with the second discharge voltage, as principally taught by Oyokota, in order to provide a more simplified means for electrically controlling the lamp/illumination, as well as to provide greater structural integrity for the lamps and facilitate manufacturing, assembly, and/or replacements of the lamps.

In addition, it would have been obvious to one ordinarily skilled in the art at the time of invention to modify Ishida to incorporate a second lamp holder, a second board, a second connector, and a second terminal, whereby the above components are identical with the first lamp holder, first board, first connector, and first terminal, since such a configuration is commonly known within the art, as demonstrated by Oyokota, and whereby it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2) in view of Oyokota et al. (JP 2002-132193 A) as applied to Claim 7 above, and further in view of Saito et al. (U.S. Patent 6,441,874 B1).

Ishida discloses the claimed invention as cited above, but does not specifically teach the first lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida in view of Oyokota to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

20. Claims 29-32 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2).

21. With regards to Claim 29, Ishida discloses a lamp assembly including:

- At least two lamps [Figure 1: (27)], whereby each of the lamps being of a fluorescent bulb type [Column 1, Line 43; Column 2, Line 1], which are commonly known in the art and inherently provide a fluorescent layer formed on an inner surface of a lamp body, a discharge gas disposed in the body, first and second electrodes [Figures 1: (29)] for providing the lamp body with first and second discharge voltages, respectively;
- A first lamp holder [Figure 1: (26)] having a pipe-shape, whereby a first end portion of the lamp is inserted into the pipe-shape and fastened to the first lamp holder;
- A first board [Figure 1: (28)] that makes contact with the first lamp holder and is electrically coupled to first electrodes of the lamps such that the first end portion of the lamp body is spaced apart from the first board, whereby the first board includes:

- = An insulated body [Figure 1: (28)] having an inward surface [Figure 1: opposite (28a)] that makes contact with the first lamp holder and an outward surface [Figure 1: (28a)] that is opposite to the inward surface;
- = At least one conductive pattern formed on the outward surface of the insulated body [Column 2, Lines 6-14 – inherent that (28a) would have a conductive pattern to electrically connect (29) with the inverter mentioned in Column 2, Lines 15-19] and electrically connected to the first electrode of each of the lamps; and
- = At least two through-holes [note Figure 1 with at least two lamps as mentioned in Column 2, Line 2] formed on the insulated body and each of the through-holes receiving the first electrode of each of the lamps, the first electrode extending through the through-holes to the outward surface of the first insulated body and being electrically connected to the conductive pattern; and
- A connector [Column 2, Lines 15-19; e.g., Figure 4: (15)] installed on the conductive pattern to electrically connect the first electrodes that are coupled to the first board to an inverter [e.g., Figure 4: (17)] that generates the first discharge voltage.

In addition, Ishida teaches the connector installed at an end of the first board [note Figure 4], but does not specifically teach the connector being disposed between the at least two through-holes.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the connector to be disposed between the at least two

through-holes for the desired purpose of disposing the components at a particular preference, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, rearranging the connector between the at least two through-holes is considered a matter of engineering preference and not the main patentable feature, whereby different dispositions of connection/installment of the connector would be functionally equivalent.

22. With regards to Claim 38, Ishida discloses the connector [Figure 4: (15)] having a coupling portion [end that is connected to the inverter – note Figure 4: (17)] formed at a lower portion (relative) of the connector.

23. With regards to Claim 30, Ishida discloses a terminal [Column 2, Lines 15], coupled to the connector to receive the first discharge voltage from the inverter and provide the first discharge voltage to the connector, whereby the terminal is coupled to the coupling portion of the connector [Column 2, Lines 15-19].

24. With regards to Claim 31, Ishida discloses the connector [Figure 1: (28b)] electrically connecting the conductive pattern of the first board to the inverter through the terminal [Column 2, Line 15-19].

25. With regards to Claim 32, Ishida discloses the first electrode is soldered [Figure 1: (28b)] with the conductive pattern to be electrically connected thereto.

26. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2) as applied to Claim 29 above, and further in view of Saito et al. (U.S. Patent 6,441,874 B1).

Ishida discloses the claimed invention as cited above, but does not specifically teach the first lamp holder comprising of rubber.

Saito teaches a lamp holder [Figures 1-7: (9)] having a pipe-shape and comprising of rubber [Column 5, Lines 12-16].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate the rubber pipe-shaped lamp holder of Saito to provide greater security to the fluorescent lamps, as well as prevent luminance drop via suppressing heat radiation at the electrode portions of the fluorescent lamps so as to secure sufficient amount of mercuric vapor in the whole of said lamps [see Saito: Abstract].

27. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. (U.S. Patent 7,057,678 B2) as applied to Claim 29 above, and further in view of Oyokota et al. (JP 2002-132193 A).

Ishida discloses the claimed invention as cited above, but does not specifically teach a second lamp holder to the second electrode to provide the second electrode with the second discharge voltage and a second board coupled to the second electrode, wherein the second board and the second lamp holder have identical shapes with the first board and the first lamp holder, respectively.

Oyokota teaches a lamp assembly having at least two fluorescent lamps [Drawings 1, 4-5: (2)] with first and second electrodes that are coupled to first [Drawing 1: (9, 10, 11, 14)] and second [Drawing 1: (8, 10, 11, 14)] boards, respectively on either sides of the lamps, which provide first and second discharge voltages [Drawing 5] to the respective electrodes.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lamp assembly of Ishida to incorporate a second lamp holder coupled to the second electrode and a second board for providing the second electrode with the second discharge voltage, as principally taught by Oyokota, in order to provide a more simplified means for electrically controlling the lamp/illumination, as well as to provide greater structural integrity for the lamps and facilitate manufacturing, assembly, and/or replacements of the lamps.

In addition, Ishida obviously teaches a second board coupled to the second electrode and a second lamp holder, whereby the second board and the second lamp holder would have identical shape with the first board and the first lamp holder, respectively. Such a configuration is commonly known within the art, as demonstrated by the prior art cited to Oyokota. Lastly, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. HAN whose telephone number is (571)272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M Han
Examiner
Art Unit 2875

/Jason M Han/
Examiner, Art Unit 2875
Thursday, October 30, 2008